



BASUTOLAND

Annual Report of the Department of Agriculture

For the Report Year ended 30th September

1943





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The limited staff of this department have been very fully engaged in maintaining the pace of the work already underway, in enlarging the drive for increased food production and in inaugurating the campaign for village tree planting, outlined in the Report for 1942. A considerable part of the time of the Head Office staff has had to be devoted to wartime controls.

The campaign for increased food production occupied the greater part of the energies of the department. Unfortunately there is no land left, suitable for arable purposes, which has not been under cultivation for many years. The drive has, therefore, been concentrated on persuading the people to use better methods of cultivation, to manure the land and, as a wartime measure, to use as much phosphatic fertiliser as can be obtained.

A more ambitious scheme based on crop rotation, including fodder crops and grass leys, the ploughing in of crop residues, green manures and farm-yard manure, is being introduced. This scheme involves the provision of a greatly increased native staff.

The propaganda work in favour of each family storing adequate supplies of food to provide for the needs of the family throughout the year, has been most successful.

The village tree planting campaign, with its object the provision of one acre of trees per family for fuel and building purposes, has progressed very satisfactorily; a total of 6,671,342 trees having been planted by the people in a period of seven months.

The scope of the experimental work, which has been devoted mainly to the breeding and selection of wheat, has been enlarged to provide exact information on the best method of recovering and maintaining soil fertility. A plot of land has been obtained at Makhaleng to serve the mountain areas. On this plot variety trials of crops, likely to suit mountain conditions, are already underway. One of the most important of these trials is that of

potatoes, which should be most valuable in improving the rather limited diet of the people. Pyrethrum, as a cash crop for the mountain areas, is promising.

The grazing over large parts of the country has deteriorated very considerably, and steps have been taken to introduce a system of rotational grazing. Demonstrations of the value of this system are provided on the Government Reserves, and are being extended to village commonages.

The small, compact, demonstration farm, opened last year, is proving attractive to the people, and others will be opened as funds permit.

In spite of the great expansion in the work of the department, a perusal of the following reports from the different sections reveals that progress in general agriculture, livestock improvement and anti-erosion work has not suffered; in fact there has been a satisfactory increase in the out-put of the work in these sections.

The progress recorded is due entirely to the tireless efforts of my staff, who have worked short-handed and under difficulties due to war conditions.

CONCLUSION:

I should like to record my appreciation of the very helpful co-operation received from Officers of the Administration and other Departments.

(Signed) W. G. LECKIE,
Director of Agriculture.

AGRICULTURAL DIVISION

Part I

STAFF:

European: Mr. H.C. Mundell, M.B.E., accepted a transfer to Swaziland, and the following departmental transfers were made: Mr. R.K. Tennant from Mohale's Hoek to Maseru, Mr. J.G.S. Bennie from Peka to Mohale's Hoek, Mr. B.P. Harding from Maseru to Teyateyaneng, Mr. Halse from Quthing to Butha Buthe and Mr. Barry from Butha Buthe to Quthing.

African: Three Agricultural and Livestock Assistants.
Thirty-eight Demonstrators.

Part II

Weather Conditions: Heavy rains fell during the Spring and early Summer and the crops suffered from water logging and lack of cultivation. On the nights of the 13th, 14th and 15th February frost occurred which did considerable damage to the foothills and mountains. The latter part of February and the month of March were hot and dry, which was not advantageous to the maize crop, then cobbing. From April to the end of September the rainfall was above average and the ground remained soft enough to plough during the whole of this period.

The winter was very cold, up to 28° of frost on the ground being registered at Maseru. There were four heavy falls of snow in the mountain districts and these were responsible for the loss of human life and for the heavy mortality among stock, especially pack animals.

The rainfall for the territory during the period under review was 36.60 inches, as against 28.51 inches during the previous year.

REPORT ON THE CONDITION OF THE CHIEF AGRICULTURAL CROPS:

The maize and kaffir corn crops in the foothill districts were seriously damaged by frost in February. These crops in the lowlands were, however, better than last year, except in the Mohale's Hoek and Quthing districts.

The mountain wheat crop was good in most places, and a fair crop was reaped in the lowlands.

The bean crop was poor.

In the mountain districts, a much larger acreage than last season was sown to peas and good crops were obtained. The price for peas was very high, for good samples over 40/- per bag was received.

INCIDENCE OF INSECT PESTS:

No swarms of Brown or Red Winged Locusts invaded the territory. The Elegant Grasshopper was not as prevalent as last year. The damage done by this pest was confined to vegetable gardens.

Army Worm: The infestation of this pest was much less than in 1942, and comparatively little damage was done to the grazing.

Cutworm: This pest was responsible for considerable damage to early sown crops, especially in the foothill and mountain districts, and also to vegetable gardens during the Spring.

Maize Stalk Borer: In some localities damage was done to the earlier sown maize and kaffir corn, but in general less damage than usual resulted from ravages by this Pest.

Aphis was very prevalent, damaging fruit trees and garden produce.

Grain Weevil: The damage to stored grain by this insect is becoming more serious every year, and it has now made its appearance in the higher localities of the country.

ESTIMATES OF AGRICULTURAL PRODUCTION FOR 1943 AND PRECEDING YEARS.

Crop	1937	1938	1939	1940	1941	1942	1943
Maize	1,135,983	873,750	758,835	691,542	1,005,268	527,634	720,000
Sorghum	297,117	197,812	164,129	139,965	274,156	164,493	324,000
Wheat	383,645	257,812	364,802	398,861	394,688	182,187	360,000
Peas, Beans & other							
Crops	148,558	109,218	156,562	133,353	73,593	36,796	56,000

Remarks: These crop returns are given in bags of 200 lbs.

AGRICULTURAL ASSOCIATIONS:

There are at present 136 Associations in Basutoland, consisting of

- 25 Men's Associations
- 54 Women's Associations
- 57 Mixed Associations

The combined membership of all Associations is 4,572.

MARKETS FOR NATIVE PRODUCE:

These markets continue to be well patronised and are most useful as a means of disposing of surplus vegetables and fruit. The chief purchasers are other Natives who do not own gardens.

AGRICULTURAL SHOWS:

Shows were held during the season under review at Maseru, Peka, Mohale's Hoek, Mokhotlong, Qacha's Nek and Sekake's in the Qacha's Nek district. The exhibits in the Produce and Vegetable Classes were very good at all Shows, but, on the whole, the Shows were disappointing except at Mokhotlong and Qacha's Nek. The Maseru and Mohale's Hoek Shows were spoilt owing to heavy rains.

RODENT DESTRUCTION:

In most districts in Basutoland there was been a big increase in rodents during the year. The Medical Department has had to prepare a large quantity of poisoned wheat, and the Agricultural Department has co-operated, as far as possible, in destroying these vermin. The situation has now improved and is under control.

LECTURES AND DEMONSTRATIONS:

During the year under review six hundred and three lectures and demonstrations were given by Native Agricultural Demonstrators, at which 22,317 persons attended. The Staff of the Agricultural Department have also toured their districts and held many meetings to explain and impress upon the people the vital necessity of increasing food production at the present time.

SCHEME FOR IMPROVEMENT OF WHEAT AND METHODS OF SALE:

This scheme is being proceeded with as set out in the Annual Report for 1942.

94 bags of Wolkoren and 50 bags of Red Egyptian wheat were purchased for distribution in the lowland areas.

The wheat season was better than that of the preceding year, a fair crop being harvested in the lowlands and a good crop in most of the mountain districts.

During the season 1942-43, a total crop of 1863 bags of Marquis wheat was produced from seed issues made by the Government, 400½ bags were returned for re-issue and 165½ bags were bought, making a total of 566 bags for re-issue during 1943-44. Marquis wheat does well in the foothill and mountain districts and produces excellent samples. Numbers of growers of this wheat now own their own seed.

REPORT ON GENERAL DEMONSTRATION WORK CARRIED OUT IN THE TERRITORY DURING 1942-43.

The results of the Agricultural demonstration work were again outstanding and provided excellent proof of the increased food production which could be obtained in this territory if better methods of agriculture were universally adopted.

The usual competitions were held for the best cultivated fields of Spring and Autumn sown crops; there were altogether 468 entries in the various demonstration centres. A sum of £31.10.-. was expended in prize money for these Field Competitions.

The following are the particulars of the demonstration work carried out during the season:

RESULTS OF DEMONSTRATION WORK FOR THE YEAR 1942-43.

DEMONSTRATION PLOTS				NATIVE WORKED CHECK PLOTS		
CROP	No. of Plots	Acreage	Yield per acre in bags of 200 lbs.	No. of Plots	Acreage	Yield per acre in bags of 200 lbs.
Wheat	260	853.5	2.2	300	972.25	1.2
Maize	202	752.5	3.4	227	819.25	1.8
Sorghum	33	75.75	3.6	49	148	1.8
Peas and Beans	6	6	1.4	NIL		

VEGETABLE GARDENING AND FRUIT CULTURE:

Everything possible has been done by the Agricultural Department to persuade house-holders to plant vegetable gardens, pointing out to the people that this is one of the best means of increasing their families' food supplies. There has been a satisfactory increase in the number of vegetable gardens worked under the supervision of demonstrators. There are also a number of privately worked gardens whose owners have copied those planted under Government supervision. There was an increase of 1,578 gardens this year.

During the early part of the season great damage was done in the gardens by cut-worm. Towards the latter of the season however, many excellent gardens were seen.

Competitions for the best gardens were held, and out of the grand total of 9,907 gardens supervised by Agricultural Demonstrators, 2,605 were entered for the competitions. An amount of £83. 7. 6d. was expended in prize money.

The usual free issue of vegetable seeds was made. Three bags of seed potatoes were issued to each lowland demonstrator.

A great number of the gardens have already been planted up with fruit trees, but further free issues were made from Government Nurseries viz: 6,056 peach trees, 250 figs and 1,450 vines. 210 fruit trees of named varieties were purchased by Native gardeners from Nurserymen in the Union.

METHODS ADOPTED TO INCREASE FOOD PRODUCTION:

The chief methods adopted are:-

1. Propaganda for better ploughing and cultivation.
2. Manuring the worn-out land with kraal manure. It is proposed to provide each Agricultural Officer with a number of Scotch Carts to transport the manure from the villages to the fields. Two carts were bought during the year and are proving very useful.
3. Manuring the lands during the war period with Phosphates.
4. Rotation of crops and increasing the acreage of leguminous crops, the residues of which to be ploughed under.
5. By supplying seed at cost price in districts where good seed is unobtainable. 1,937 bags of wheat, 1,360 bags of maize and 549 bags of beans of suitable varieties were obtained and sold to the people.

VILLAGE AND RESERVE TREE PLANTING:

Tree planting is very closely allied to the scheme for increasing food production, as it is only by growing timber, which can be used for fuel and so releasing the kraal manure, which is at present the chief source of the nation's fuel supply, that this valuable product can be used for fertilising the worn-out land.

The village tree planting scheme was started in November. Excellent progress has been made, especially in the northern districts; 6,798,339 trees have been planted and a large percentage have become established. The Chiefs and Headmen have been asked to beacon off suitable land for tree planting; each family to be allowed one acre of trees, the planting of which is to be spread over a period of seven years.

Reserve tree planting. The river banks and the slopes of the Qoaling mountain, in the Maseru Reserve, have been planted chiefly to White Poplar and, where suitable, to Weeping Willow. A considerable amount of tree planting has also been carried out on the Leribe, Mohale's Hoek and Mafeteng Reserves. A total number of 371,909 trees were planted.

COMPARATIVE MANURIAL TRIALS, 1942-43.

A number of manurial trials were carried out by the Agricultural Demonstrators.

(See Table on next page).

(The results of these trials are worked out to the nearest half bag and given in bags of grain of 200 lbs.)

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Crop	Superphosphate				Kraal Ash				Kraal Manure				Seychelles Guano				No Manure			
Maize	24	24	24	200 lbs. per acre	Number of plots	24	24	30 bags per acre	Bags per acre harvested	Number of plots	3	3	Amount of Fertiliser per acre	50 bags	3	Bags per acre harvested	Number of plots	24	24	Amount of Fertiliser per acre
					Acreage	24	24			Acreage	3	3		15	3		Acreage	24	24	
											Amount of Fertiliser per acre	100 bags			7					
											Bags per acre harvested									Bags per acre harvested

REPORT ON THE GOVERNMENT SCHEME FOR THE SUPPLY OF SUPERPHOSPHATE TO NATIVE FARMERS AT COST PRICE:

Owing to the sale of fertiliser being controlled in the Union, the amount purchased by the Basuto was less than that of the previous year. A total of 790 bags of Superphosphate, or Seychelles Guano, was purchased in 1942-43, as against 939 bags in 1941-42. In practically all instances the application of phosphatic fertiliser well repaid the Native farmer.

Part III

FINANCIAL STATEMENT:

Revenue	Expenditure
Nil	£7,180 Personal Emoluments
	£4,271 Miscellaneous
	£6,609 Wool and Mohair Fund
	£18,060

(Signed) L.F. WACHER
Senior Agricultural Officer.

VETERINARY AND LIVESTOCK DIVISION.

STAFF — EUROPEAN: The strength of the European staff remained unchanged.

AFRICAN: (a) Agricultural and Livestock Assistant E. G. T. Ntsasa was transferred from Mohale's Hoek to Mokhotlong,

(b) Agricultural and Livestock Assistant A. Mathule was transferred from Mokhotlong to Mohale's Hoek,

(c) Agricultural Demonstrator S. Letsie was promoted to Agricultural and Livestock Assistant with headquarters at Qacha's Nek,

(d) Three Assistant Stock Inspectors and one Clerk were promoted to Stock Inspectors.

Part I.

REVIEW OF THE LIVESTOCK INDUSTRY.

1. GENERAL POSITION: Conditions for livestock were favourable in the summer but unfavourable in the winter. Unprecedented snowstorms and cold rains were experienced in the winter. Livestock exported showed very fair condition, particularly in the summer.

2. ECONOMIC ASPECT: Export facilities for slaughter stock to the Union were not seriously hampered; in fact, in the case of small stock, they were facilitated. Union market quotations showed that average prices for beef throughout the year, over all grades, were up to 30% higher than last year. The same applied to mutton. Under these conditions stock sold readily within the Territory at high prices.

For livestock sale returns vide Part 2(c).

3. STATISTICAL REVIEW: No census of livestock was taken during the year. Compared with 1942, export of cattle increased by 1,418 units, while sheep increased by 366 units.

Vaccine to prevent the common diseases of livestock, particularly Quarter Evil and Gallsickness, were in good demand.

The poundage of hides and skins exported is not a fair pointer to the mortality.

As a temporary measure, the Union Government waived the condition to disallow the importation of unsterilised bones.

4. ANIMAL HEALTH: This remained about normal, although the incidence of Anaplasmosis in certain localities was higher than usual. Mortality from exposure, particularly in the uplands, was severe. No serious outbreaks of disease were recorded.

Part II(a)

DUTIES AND WORK OF THE DIVISION.

DISEASE CONTROL:

ANTHRAX: No outbreaks were recorded.

QUARTER EVIL: Many outbreaks were dealt with by preventive inoculation. Having regard to the fact that the disease is not notifiable by law, it is gratifying to record that stock owners have now learnt to report outbreaks voluntarily, hence the large number of doses of vaccine used.

EQUINE MANGE: The incidence of this disease showed no increase over the previous year.

BOVINE MANGE: This disease showed an upward trend.

ANAPLASMOSIS: The incidence of this disease is becoming more apparent in certain areas. Preventive inoculation was resorted to and the response of cattle owners was good.

INTERNAL PARASITISM OF SMALL STOCK: Despite increased burdens, Officers maintained the dosing standard well. The abolition of the coupon system simplified matters considerably for all concerned.

Part II(b)

ANIMAL HUSBANDRY.

SMALL STOCK: The poundage of wool classed under official supervision was 1,439,674 lbs., representing an increase of 114,336 lbs. over the previous season. The total does not include many thousands of pounds of wool classed by the owners themselves. The total poundage of wool and mohair exported for the year was 9,889,161 lbs. and 974,040 lbs. respectively. This represents an increase, in the case of wool over the previous year, of 393,331 lbs. Generally speaking, the prices realized for wool and mohair were maintained at satisfactory and remunerative levels. There was an increase of 20% in the price of wool.

The following table summarizes the wool classing position during the last three seasons :-

	1940/41	1941/42	1942/43
No. of flocks	2,437	2,894	2,715
No. of sheep shorn	198,290	234,382	245,900
Poundage of wool	980,197	1,323,338	1,439,674
Average units per flock	81	81	90
Average weight per sheep	4.94 lbs.	5.7 lbs.	5.85 lbs.
Percentage of combing wool	30.44	27.94	34.62
Percentage of short wool	14.79	13.61	16.62
Percentage of X.M. wool	15.60	18.62	13.93
Percentage of outsorts	39.17	39.63	34.83
No. of bales of classed wool	3,063	4,142	4,499.

The average prices for wool and mohair were :-

Government Classed	Simply Classed.	Unclassed.
C.1 — 11½d.	Longs — 7½d to 8d.	Longs — 7d.
C.2 — 9½d.	Shorts — 6½d to 7d.	Shorts — 6d.
L.L. — 10½d.	X.M. — 4d.	C & C. — 4d.
S.S. — 8d.	B.P. — 4d.	
S. — 6¾d.	Lox — 3d.	
L. — 8d.		
X.M. — 6d.		
C.B.P. — 6d.		
B.P. — 5½d.		
B.K.S. — 5d.		
Lox — 3d.		

MOHAIR.

No. 1.	:	No. 2	:	No. 3	:	C&C or Kpy.
Longs - 9d	:	Shorts - 9d	:	Shorts - 6d	:	3d.

During the current financial year, 709 merino rams were introduced from the Union by the Government for resale to African farmers, making a total of 5,167 merino rams thus introduced since the inception to the Sheep Improvement Scheme in 1935. Many hundreds of rams were also introduced by private enterprise. Owing to the great demand for slaughter sheep, at considerably enhanced prices, there was an increase in the number of sheep exported for this purpose.

CATTLE: No cattle census was taken during the year. As already premised, thousands of cattle died in the mountain areas from starvation, due to a series of snowstorms spread at short intervals over the period May-September. Many scrub bulls were eliminated by:

- (a) Castration by Officers of the Department,
- (b) castration by owners themselves.
- (c) sale by public auction to butchers under Livestock Sales Scheme (the total number under this head being 582),
- (d) exported by traders and others for slaughter purposes in the Union.

Five pure-bred brown Swiss, twenty-two pure-bred Afrikaner and six Afrikaner-Sussex Cross-bred bulls were purchased by the Government and issued under the Cattle Improvement (Loan) Scheme. With the exception of one, all these bulls were introduced from the Union. The total number of bulls purchased, since the inauguration of the Cattle Improvement Scheme, is 322.

EQUINES: No census of equines was taken during the year. The emasculation of weedy and undesirable stallions was continued throughout the year, on a voluntary basis. One stallion was purchased by the Government for Horse Improvement purposes. The Stud Stables at Quthing were completed. One Catalonian donkey "jack" was purchased during the year. The total number of stallions and donkey "jacks" purchased since the Equine Improvement Scheme was initiated, in 1936, is 65 and 43 respectively.

PIGS: A scheme was started during the year with the object of breeding and issuing pigs to approved African pig breeders. To initiate the scheme piggeries were erected at the Experimental Plots, Maseru, and two sows and one boar of the Tamworth-Large Black Cross type were purchased from the Bechuanaland Protectorate Government.

POULTRY: A scheme was started two years ago for the purpose of encouraging the poultry industry. The scheme is briefly as follows :-

Foundation stocks of the Australorp, Rhode Island Red, Light Sussex and White Wyandotte breeds were purchased in the Union and Bechuanaland, from prominent poultry breeders.

The eggs are incubated at the Experimental Plots, and the progeny sold at about 6 months old at 3/- each, irrespective of sex, to African poultry breeders resident in Basutoland. Over three hundred birds have already been distributed in this way.

Part II (c).

MARKETING OF ANIMALS AND ANIMAL PRODUCTS

AUCTION SALES SCHEME: During the year, 5,370 head of cattle were sold under this scheme. This figure represents an increase of 2,831 head of cattle over the previous year: Vide table appended :-

Report Year.	No. of Sales	No. of Cattle Sold	Total Amount Realized	Average Prices.
1938/39	10	257	£1,560. 14. 7	£6. 1. 5½d.
1939/40	11	784	£5,042. 17. 6	£6. 6. 7¾d.
1940/41	18	2,303	£14,740. 19. 6	£6. 8. 0½d.
1941/42	18	2,539	£20,701. 6. 6	£8. 3. 0¾d.
1942/43	25	5,370	£52,844. 19. 6	£9. 16. 9d.
	82	11,253	£94,890. 17. 7	—

No. of sheep sold	— 672	Total amount realized	— £1,083. 10. 6.
No. of goats sold	— 2	Total amount realized	— 1. 0. 0.
No. of horses sold	— 9	Total amount realized	— 65. 2. 6.
			£1,149. 13. 0.

N.B. : During the year hundreds of head of livestock were exported to the Union by private enterprise for slaughter etc. For export of livestock, bones, wool and mohair, vide Part IV.

Part III.

NEW LEGISLATION:

Proclamation No. 44, entitled "The Basutoland Wool Packing and Marking (Amendment) Proclamation, 1942."

Proclamation No. 24 of 1943, entitled "The Basutoland Importation of Livestock Proclamation, 1943."

High Commissioner's Notice No. 261 of 1942, amending High Commissioner's Notice No.197 of 1942 (Packing and Marking of Wool).

High Commissioner's Notice No.294 of 1942, raising the rate of levy on wool and mohair exported from Basutoland from one farthing per pound to one half-penny per pound.

High Commissioner's Notice No. 295 of 1942 (New Regulations for the compulsory dosing of sheep and goats) cancelling High Commissioner's Notice No. 1 of 1936.

Government Notice No. 29 of 1943, Admission of Ulreon Sodium free of duty.

Government Notice No.187 of 1943, prescribing the Ports of Entry by which livestock shall be introduced into Basutoland.

Part IV. STATISTICS.

	Sheep	Goats	Cattle	Horses	Mules	Donkeys	Fowls
Doses administered for worms	5,492,773	2,914,163	47	650	—	—	—
Castrations	22,126		2,000	1,000	—	—	—
Treated for external parasites	72,120	2,754	150	389	—	—	—
Exports	2,845	Nil	15,735	496	13	2	—
Imports	18,186	192	13,979	2,362	28	209	—
Wool exported — lbs.	9,889,161	—	—	—	—	—	—
Mohair exported — lbs.	—	974,040	—	—	—	—	—
Wool classed — lbs.	1,439,674	—	—	—	—	—	—
Bones exported — lbs.	—	—	249,400	—	—	—	—
Hides and skins exported	8,818		9,112	—	—	—	—
Inoculations:-							
Anthrax	—	—	31,196	—	—	—	—
Quarter Evil	—	—	13,706	—	—	—	—
Anaplasmosis	—	—	2,127	—	—	—	—
Blue Tongue	312	—	—	—	—	—	—
Paratyphoid	—	—	90	—	—	—	—
Fowl Typhoid	—	—	—	—	—	—	250
Horse-sickness	—	—	—	220	—	—	—
Contagious Abortion	—	—	16	—	—	—	—
Dosed for Fluke	117,500		—	—	—	—	—
Services by Government Sires.	—	—	2,074	804	—	161	—

PART V.

Revenue
£2,846.

Expenditure
£15,301.

G. T. HENDERSON
Principal Veterinary Officer.

ANTI-EROSION WORK.

The work has been continued with the part-time services of nine Agricultural and Livestock Officers, and the full-time services of one Foreman Mechanic, five European Anti-Erosion Foremen and one Mosuto Foreman.

Equipment: 8 Caterpillar Tractors (two out of commission during the year), 7 Graders, 8 Ditchers, 110 Dam Scrapers, hand implements and 215 oxen, have been in use during the period under review.

The year has been an exceptionally wet one, and for weeks at a time it was impossible to operate tractors due to the wet condition of the land.

Great difficulty has been experienced in obtaining spare parts for tractors owing to war conditions, and, at one time, four out of the eight tractors were laid up awaiting the arrival of spares.

In spite of these difficulties and the shortage of labour, the area protected by terrace banks was over 1,000 acres more than that covered last year. This achievement was made possible by lightening the work on the more gently sloping land.

The progress made in the principal sections of the work during the year is reflected in the following schedule:-

Measure.	Previous to 1943	During 1943	Total to end of 1943
Area terraced, acres	95,594.3	19,030.3	10 114,624.6
Length of terrace constructed, yards	10,077,399	2,018,945	12,096,344
Number of dams constructed	122	15	137
Number of trees planted.	627,274	129,198	756,472

1,400,505 cubic yards of earth were moved when constructing the 2,018,945 yards of terraces during the year. On slopes of less than 10% the system of construction of terrace banks has been modified and provides for one heavy bank alternating with five lighter banks. In the foothill and mountain areas, where heavy contour works cannot be constructed, the laying down of grass or buffer strips has continued. The area protected in this way during the year was 7,471 acres, making a total of 17, 155 acres since the work was commenced in 1942.

Grass inlets or spillways are proving very satisfactory in carrying flood water back into natural water courses, and twenty nine of these inlets or spillways have been constructed during the year. Kikuyu grass is used extensively in these spillways and for binding terrace banks, especially those passing through grazing lands. One rock spillway has been constructed, but this type of spillway can only be build economically where stone is to be found nearby.

The total capacity of the fifteen dams constructed during the year amounts to 29,394,000 gallons. The dams are sited in areas where the people are most in need of water for their stock. The policy is now to construct a number of small dams with a capacity of from a quarter million to one and a quarter million gallons, at a maximum cost of £50 each, rather than a few large dams.

The mean cost of all heavy anti-erosion work completed during the year was 10.3/- per acre, or 2/- less per acre than for 1942. This figure includes supervision and transport expenditure, running cost of power plant, wages, etc. but excludes overhead departmental expenditure and depreciation of plant and equipment. The low cost is due to the employment of a Foreman Mechanic and to the new system of constructing lighter banks on gently sloping land. The average cost of laying out grass or buffer strips was 12.9d. per acre, this includes all labour costs and hire of oxen, but does not include the salaries of part-time demonstrators or supervisors.

(Signed) L.H. COLLETT

Acting Engineer to the Agricultural Department.

